CENTERS FOR DISEASE CONTROL

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MORBIDITY AND MORTALITY WEEKLY REPORT

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Progress in Chronic Disease Prevention

Survey of Chronic Disease Activities in State and Territorial Health Agencies

In February 1987, the Association of State and Territorial Health Officials (ASTHO) conducted a survey to gather information on current chronic disease activities in state and territorial health agencies. Ninety-five percent (52) of the 55 member agencies responded.

Forty-nine state and territorial agencies reported having a formal, written health plan. The chronic disease portion of 40 of these plans cite prevention and control activities specifically. The activities most frequently targeted hypertension, followed by heart disease and cancer (Table 1). Fourteen states reported having a cancer control plan separate from the state health plan.

Most states have a unit that administers chronic disease activities. Within such units, the disease most frequently addressed was cancer, with hypertension,

TABLE 1. Chronic disease activities cited in state and territorial health plans – United States, 1987

Activity	Number of health plans in which cited
Hypertension	39
Heart Disease	35
Cancer	34
Smoking Cessation/Prevention	32
Dietary Modification	29
Alcoholism Prevention	29
Stroke	28
Diabetes	26
Chronic Obstructive Pulmonary Disease	14
Arthritis	10
Liver Disease and Cirrhosis	9
Osteoporosis	6
Other	8

Chronic Disease Activities — Continued

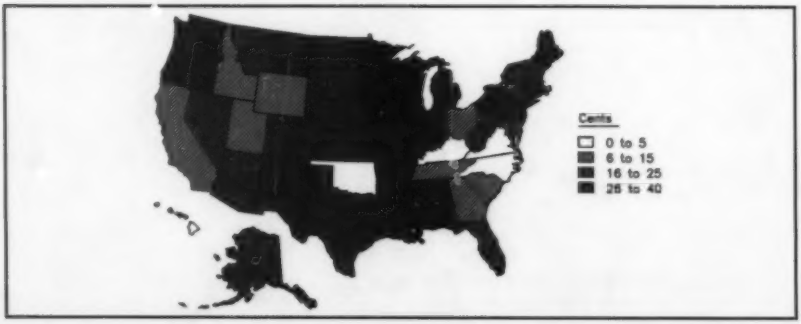
diabetes, and heart disease following in close order (Table 2). The survey also investigated the degree of collaboration between state and territorial health agencies and voluntary associations. Forty-one health agencies communicate formally or informally with the American Cancer Society; 36, with the American Heart Association; 33, with the American Diabetes Association; and 25, with the Juvenile Diabetes Foundation. Three agencies have initiated joint projects with the American Cancer Society; eight, with the American Heart Association; ten, with the American Diabetes Association; and two, with the Juvenile Diabetes Foundation.

Risk-reduction activities occur in most states and territories. Forty-four respondents reported sponsoring diet-modification activities; 33 have smoking cessation programs; and 27 promote alcohol-abuse prevention programs. Twenty-eight respondents sponsor exercise programs, and 27 sponsor stress reduction activities. All 52 respondents indicated that cigarettes are taxed above the federal excise tax. Taxes range from 2 to 38 cents per pack, with the majority of states taxing within a range of 15 to 25 cents per pack (Figure 1).

TABLE 2. Disease areas addressed by state and territorial chronic disease units — United States, 1987

Area	Number of units in which addressed
Cancer	40
Hypertension	39
Diabetes	33
Heart Disease	32
Stroke	25
Osteoporosis	11
Alzheimer's Disease	11
Arthritis	7
Chronic Obstructive Pulmonary Disease	6
Liver Disease and Cirrhosis	5
Other	22

FIGURE 1. Cigarette tax per 20-count pack, by state — Association of State and Territorial Health Officials Survey, 1987



Chronic Disease Activities — Continued

In order to determine which data sources are most useful to state and territorial agencies, the survey included questions about their availability and frequency of use. Agencies indicated that hospital discharge data, mortality statistics, cancer registry data, and population-based survey data are frequently utilized (Table 3). Where private insurance or workmen's compensation data are available, fewer than half the states and territories use these sources.

Screening programs are available in over half the states and territories surveyed (Table 4). Hypertension screening is the program most frequently cited, followed by screening for cervical cancer and breast cancer. Twenty-four of the states with hypertension screening programs perform cholesterol screening as well. Nine of the states with cervical cancer screening programs have cytology laboratories that read Papanicolaou smears. Twenty-five states require licensing for cytology laboratories. Mammography is performed in nine of the states and territories with breast cancer screening programs, and breast palpation is performed in 28 of them. Thirty-seven health agencies provide education for breast self-examination. Many of these programs are conducted in conjunction with other agencies.

TABLE 3. Data sources available to state and territorial health agencies, by availability and usage — United States, 1987

Source	Number of agencies in which	
	Available	Used
Mortality Statistics	52	51
Cancer Registry	39	36
Hospital Discharge, Population-Based	38	31
Survey Data	37	35
Special Surveillance Studies	34	34
Medicaid Reimbursement Data	33	22
Workmen's Compensation	19	7
Chronic Disease Registries	15	14
Private Insurance Data	14	7
Other	7	6

TABLE 4. Screening activities performed by state and territorial health agencies — United States, 1987

Area	Number of agencies performing screening
Hypertension/Heart	42
Cervical Cancer	33
Breast Cancer	30
Diabetes	25
Glaucoma	23
Colon Cancer	19
Oral Cancer	12
Testicular Cancer	9
Skin Cancer	7
Other	6

Chronic Disease Activities — Continued

The needs most frequently mentioned in the comments section of the questionnaire were for a mechanism to exchange information among states; for additional funding for chronic disease control programs; for assistance in collecting and analyzing morbidity and mortality data; for national leadership in developing model programs and screening standards and in training staff; and for assistance in efforts to develop legislation related to chronic disease.

Reported by the Association of State and Territorial Health Officials; Div of Chronic Disease Control, Center for Environmental Health and Injury Control, CDC.

Editorial Note: This survey represents an initial attempt to determine the extent of chronic disease activities in state and territorial public health agencies. The results suggest that the majority of states and territories have begun to establish a structure for the development and delivery of chronic disease programs. To better understand the level of effort and comparability of program activity, ASTHO will continue monitoring state and territorial activity.

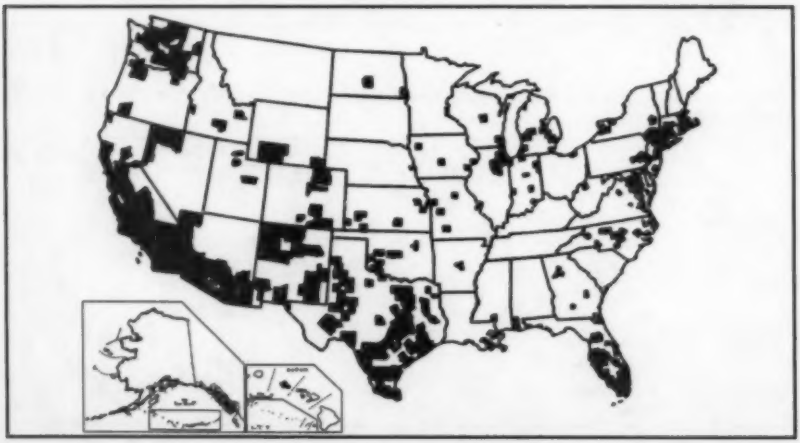
Topics in Minority Health

Tuberculosis Among Hispanics — United States, 1985

In 1985, 22,201 tuberculosis cases were reported to CDC, for a rate of 9.3/100,000 U.S. population (*1*). Fourteen percent (3,134) of the 22,067 patients with known ethnicity were Hispanic. Ninety-seven percent (3,032) of these Hispanics were white. The rate among Hispanics was 18.1/100,000, which is 4 times the rate of 4.5/100,000 for the non-Hispanic white population.

Tuberculosis cases among Hispanics were reported from 11% (337) of the nation's 3,138 counties (Figure 1). California reported 40% (1,239) of the cases among Hispanics; Texas, 23% (731); New York, 13% (394); and all other states combined, 25% (770).

FIGURE 1. Counties reporting tuberculosis among Hispanics — United States, 1985



Tuberculosis — Continued

Thirty-four percent (1,064) of the 3,134 Hispanic patients were born in the United States, including 5% (169) from Puerto Rico. Forty-two percent (1,306) were foreign-born. There was no information on place of birth for 24% (764). Country of origin was known for 1,284 of the foreign-born patients. Of these, 62% (799) were from Mexico; 6% (81) were from Cuba; 5% (70) were from El Salvador; and 26% (334) were from 29 other countries. Twenty-three percent (219) of the 944 foreign-born patients with known year of arrival developed tuberculosis within their first year of residence in the United States; 11% developed it within their second year of residence.

Forty-eight percent (1,503) of the 3,132 patients with known age were <35 years of age, and 11% (350) were <15 years. Foreign-born patients were even younger. Of these, 57% (535) were <35 years of age when tuberculosis was reported, and an additional 17% (157) were <35 years of age when they arrived in the United States.

Reported by: Div of Tuberculosis Control, Center for Prevention Svcs, CDC.

Editorial Note: All states are currently submitting information on the ethnicity of tuberculosis patients. The difficulty of accurately estimating population sizes within this group between censuses makes it impossible, however, to reliably determine rates of tuberculosis among Hispanics by geographic area. However, a large proportion of Hispanics live in California, Texas, and New York, and three-quarters of the tuberculosis cases among Hispanics were reported from these areas.

Hispanics, 17.3 million of whom resided in the United States in 1985, are the second largest minority in the United States (*2*). They are also the youngest minority population in the United States (*2*). Similarly, Hispanics reported to have tuberculosis in 1985 were younger than tuberculosis patients among other minorities (*3-5*). They were considerably younger than non-Hispanic whites with tuberculosis (*6*). Almost half were younger than 35 years of age.

Foreign-born Hispanics accounted for 40% of all Hispanic tuberculosis patients and were younger than Hispanic tuberculosis patients born in the United States. Three-quarters of foreign-born Hispanic patients were younger than 35 years of age when they arrived in the United States. Furthermore, over 30% of these patients developed tuberculosis within their first 2 years of residence in the United States.

These data indicate that a large proportion of tuberculosis among Hispanics is potentially preventable. Preventive chemotherapy should be offered to infected persons according to current guidelines (*7*).

References

1. CDC. Tuberculosis—United States, 1985. MMWR 1986;35:699-703.
2. Spencer G. Projections of the Hispanic population: 1983 to 2080. Washington, DC: Bureau of the Census, 1986. (Current Population Reports; series P-25, no. 995).
3. CDC. Tuberculosis in blacks—United States. MMWR 1987;36:212-4,219-20.
4. CDC. Tuberculosis among Asians/Pacific Islanders. MMWR 1987;36:331-4.
5. CDC. Tuberculosis among American Indians and Alaskan Natives—United States, 1985. MMWR 1987;36:493-5.
6. CDC. Tuberculosis in Minorities—United States. MMWR 1987;36:77-80.
7. American Thoracic Society, CDC. Treatment of tuberculosis and tuberculosis infection in adults and children. Am Rev Respir Dis 1986;134:355-63.

Epidemiologic Notes and Reports

Enterovirus Surveillance — United States, 1987

Since 1970, CDC has requested reports on enterovirus serotypes isolated by state health department laboratories. These reports are submitted to CDC on a monthly basis approximately 6 to 8 weeks after a specimen is submitted to the state virology laboratory. Since 1985, reports from early in the enterovirus season (March-May) have been tabulated and used to predict the types likely to be commonly isolated during the peak of the season (usually July-October).

This year, CDC has received reports of 47 nonpolio enterovirus (NPEV) isolates identified by state virology laboratories from March through May. Echovirus 11 was isolated most frequently (nine isolates), followed by echovirus 6 (eight isolates),

(Continued on page 575)

TABLE I. Summary — cases specified notifiable diseases, United States

Disease	34th Week Ending			Cumulative, 34th Week Ending		
	August 29, 1987	August 23, 1986	Median 1982-1986	August 29, 1987	August 23, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	529	170	N	12,301	8,118	N
Aseptic meningitis	528	587	400	6,239	5,407	4,641
Encephalitis: Primary (arthropod-borne & unspec)	52	40	40	747	656	697
Post-infectious	2	1	1	77	75	75
Gonorrhea: Civilian	14,661	18,862	18,959	508,128	569,880	569,880
Military	333	412	431	10,863	10,869	14,032
Hepatitis: Type A	416	400	429	15,977	14,234	14,095
Type B	500	548	527	16,823	16,959	16,400
Non A, Non B	49	72	N	2,007	2,384	N
Unspecified	82	54	110	2,071	2,969	3,715
Legionellosis	25	27	N	560	446	N
Leprosy	6	6	2	126	182	163
Malaria	41	24	21	557	659	659
Measles: Total*	15	64	18	3,219	5,226	2,215
Indigenous	10	64	N	2,835	4,961	N
Imported	5	-	N	384	258	N
Meningococcal infections: Total	38	27	30	2,035	1,777	1,961
Civilian	38	27	30	2,034	1,775	1,946
Military	-	-	-	1	2	8
Mumps	64	55	23	10,046	3,303	2,382
Pertussis	104	100	83	1,442	1,993	1,456
Rubella (German measles)	3	6	6	276	406	502
Syphilis (Primary & Secondary): Civilian	530	544	562	22,540	16,859	18,088
Military	-	2	5	104	117	221
Toxic Shock syndrome	19	7	N	216	239	N
Tuberculosis	448	488	488	13,565	14,060	14,060
Tularemia	7	10	7	131	92	153
Typhoid Fever	14	6	6	199	189	223
Typhus fever, tick-borne (RMSF)	23	30	25	453	508	595
Rabies, animal	78	128	128	3,134	3,682	3,682

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	-	Leptospirosis	13
Botulism: Foodborne (Calif. 4)	9	Plague	6
Infant (Oreg. 1)	37	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Ohio 1; Calif. 1)	60
Brucellosis (Tex. 1)	78	Rabies, human	-
Cholera	2	Tetanus (Wash. 1; Calif. 2)	27
Congenital rubella syndrome	4	Trichinosis (Oreg. 1; Calif. 1)	30
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine) (Calif. 1)	22
Diphtheria	1		

*Five of the 15 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending August 29, 1987 and August 23, 1986 (34th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1987	1987	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1986	1987	1987	1987	1987	1987	Cum. 1987
UNITED STATES	12,301	528	747	77	508,128	569,880	416	500	49	82	25	126
NEW ENGLAND	470	23	29	2	15,511	13,564	19	45	2	6	1	11
Maine	16	1	1	-	469	590	-	5	-	-	-	-
N.H.	13	4	2	-	269	353	4	1	-	-	-	2
Vt.	4	3	4	-	137	165	-	6	1	-	-	-
Mass.	287	6	13	1	5,698	5,757	12	28	-	6	1	8
R.I.	40	1	3	1	1,363	1,125	-	-	1	-	-	-
Conn.	110	8	6	-	7,575	5,574	3	5	-	-	-	1
MID. ATLANTIC	3,613	73	98	6	82,492	96,269	23	45	7	4	1	6
Upstate N.Y.	465	49	36	3	11,075	11,293	8	15	-	-	1	-
N.Y. City	2,161	3	7	-	42,879	56,842	3	16	1	4	-	6
N.J.	637	-	7	-	10,641	12,456	9	11	4	-	-	-
Pa.	350	21	36	3	17,897	16,678	3	3	2	-	-	-
E.N. CENTRAL	809	177	225	12	76,194	79,083	19	48	4	2	8	5
Ohio	154	69	91	5	17,251	19,317	3	20	-	-	3	2
Ind.	71	21	32	-	5,826	7,876	7	6	1	2	-	-
Ill.	391	-	25	7	23,020	20,880	-	-	-	-	-	1
Mich.	132	86	57	-	22,883	22,936	9	22	3	-	5	1
Wis.	61	2	20	-	6,214	8,074	-	-	-	-	-	1
W.N. CENTRAL	263	47	35	-	20,576	24,300	34	14	7	-	-	-
Minn.	66	11	25	-	3,228	3,436	4	4	1	-	-	-
Iowa	19	7	3	-	1,978	2,445	-	2	3	-	-	-
Mo.	128	12	-	-	10,841	12,282	12	5	1	-	-	-
N. Dak.	1	-	-	-	183	219	-	-	-	-	-	-
S. Dak.	2	7	-	-	378	492	-	-	-	-	-	-
Nebr.	16	-	5	-	1,359	1,824	-	-	-	-	-	-
Kans.	31	10	2	-	2,609	3,602	18	3	2	-	-	-
S. ATLANTIC	1,991	88	96	26	132,609	147,077	27	89	4	24	1	5
Del.	15	-	3	1	2,173	2,345	1	2	-	-	-	-
Md.	244	21	15	5	15,128	17,555	6	20	-	-	-	2
D.C.	248	-	-	-	8,704	10,839	-	2	-	-	-	-
Va.	142	4	24	2	9,732	11,905	1	2	-	2	-	-
W. Va.	16	2	24	-	985	1,451	-	1	-	-	-	-
N.C.	101	9	17	-	19,680	22,717	5	12	2	1	-	-
S.C.	49	2	-	-	10,944	12,807	1	12	-	-	1	1
Ga.	292	15	-	-	22,800	24,802	6	25	1	-	-	-
Fla.	884	35	13	18	42,453	42,656	7	23	1	2	-	2
E.S. CENTRAL	153	35	43	6	38,616	45,985	5	33	2	1	2	-
Ky.	24	21	20	1	3,877	5,055	4	3	-	-	-	-
Tenn.	25	4	10	-	13,436	17,758	1	13	1	-	-	-
Ala.	86	9	13	1	12,524	13,156	-	10	-	1	1	-
Miss.	18	1	-	4	8,781	10,016	-	7	1	-	1	-
W.S. CENTRAL	1,202	25	93	4	57,066	66,050	48	64	2	9	6	4
Ark.	25	-	-	2	6,597	6,387	-	-	-	-	-	-
La.	152	3	19	-	10,272	11,993	7	19	1	-	-	-
Okla.	84	1	15	1	6,410	7,569	9	7	-	1	1	-
Tex.	961	21	59	1	33,787	42,111	33	38	1	8	5	4
MOUNTAIN	315	6	26	4	13,500	16,570	61	45	7	7	2	2
Mont.	2	-	-	-	374	463	3	-	2	-	-	-
Idaho	4	-	-	-	475	536	7	7	-	-	-	1
Wyo.	3	-	1	-	289	362	-	-	-	-	-	-
Colo.	130	2	8	-	2,946	4,382	5	7	2	4	-	-
N. Mex.	21	-	4	-	1,443	1,648	5	9	-	-	-	-
Ariz.	100	3	11	1	4,691	5,364	34	18	2	3	2	-
Utah	20	1	-	3	422	713	6	1	1	-	-	-
Nev.	35	-	2	-	2,860	3,102	1	3	-	-	-	1
PACIFIC	3,485	54	114	17	72,562	78,962	179	107	14	29	4	83
Wash.	153	-	10	3	5,208	6,135	41	18	2	2	-	4
Oreg.	87	-	-	-	2,689	3,273	17	10	1	-	-	-
Calif.	3,174	35	99	14	62,958	66,897	120	75	11	26	4	70
Alaska	12	14	2	-	1,135	1,808	1	3	-	1	-	-
Hawaii	59	5	3	-	572	869	-	1	-	-	-	19
Guam	-	-	-	-	151	122	-	-	-	-	-	-
P.R.	84	-	1	1	1,392	1,539	1	2	1	14	-	5
V.I.	-	-	-	-	175	195	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	287	295	-	-	-	-	-	44
Amer. Samoa	-	-	-	-	59	30	-	-	-	-	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending August 29, 1987 and August 23, 1986 (34th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	557	10	2,835	5	384	5,225	2,035	64	10,045	104	1,442	1,983	3	276	408
NEW ENGLAND	37	1	104	1	151	85	173	1	34	26	90	113	-	1	9
Maine	-	-	3	-	-	10	10	-	-	9	17	2	-	1	-
N.H.	1	-	53	-	101	42	16	-	8	4	17	58	-	-	1
Vt.	-	-	10	-	15	-	12	-	3	-	4	3	-	-	1
Mass.	13	1	22	1†	28	28	85	-	8	13	37	28	-	-	4
R.I.	7	-	1	-	1	2	14	-	2	-	1	4	-	-	2
Conn.	16	-	15	-	6	3	36	1	13	2	14	18	-	-	1
MID. ATLANTIC	61	3	513	3	51	1,627	248	5	175	1	153	135	-	11	31
Upstate N.Y.	24	-	26	-	13	83	86	3	82	-	107	87	-	9	23
N.Y. City	5	3	434	3†	18	617	20	-	10	-	-	3	-	1	5
N.J.	15	-	32	-	3	905	48	2	41	1	9	11	-	1	3
Pa.	17	-	21	-	17	22	94	-	42	-	37	34	-	-	-
E.N. CENTRAL	38	4	280	-	24	1,015	300	27	5,864	4	156	275	1	33	64
Ohio	10	-	1	-	4	10	100	1	82	-	51	108	-	-	1
Ind.	4	-	-	-	-	17	33	-	866	-	13	22	-	-	-
Ill.	8	4	114	-	18	641	75	3	2,457	-	9	31	1	25	54
Mich.	14	-	29	-	-	56	77	22	873	2	41	24	-	8	8
Wis.	4	-	136	-	2	286	15	1	1,586	2	42	90	-	-	1
W.N. CENTRAL	19	-	208	-	22	330	90	15	1,311	1	88	160	-	1	10
Minn.	7	-	19	-	20	49	26	4	768	-	11	39	-	-	-
Iowa	4	-	-	-	-	134	3	7	385	1	32	13	-	1	1
Mo.	4	-	188	-	1	31	26	-	22	-	24	12	-	-	1
N. Dak.	-	-	1	-	-	25	1	-	6	-	5	4	-	-	1
S. Dak.	-	-	-	-	-	-	2	2	89	-	3	14	-	-	-
Nebr.	3	-	-	-	-	1	5	-	3	-	1	5	-	-	-
Kans.	1	-	-	-	1	99	27	2	47	-	12	73	-	-	7
S. ATLANTIC	86	-	118	1	12	885	333	2	231	7	238	823	1	14	4
Del.	1	-	32	-	-	1	5	-	-	-	5	222	-	2	-
Md.	21	-	3	-	2	31	31	-	22	3	11	156	-	2	-
D.C.	9	-	-	-	1	2	6	-	1	-	-	-	-	-	-
Va.	15	-	1	-	-	59	56	-	68	-	44	30	-	1	-
W. Va.	2	-	-	-	-	2	2	-	30	-	44	23	-	-	-
N.C.	9	-	2	-	3	3	42	-	16	3	93	41	-	1	-
S.C.	4	-	2	-	-	301	33	-	12	-	-	13	-	-	-
Ga.	3	-	-	-	1	93	64	-	40	-	23	102	-	1	-
Fla.	24	-	78	1†	5	93	94	2	42	1	18	36	1	7	4
E.S. CENTRAL	11	-	5	-	-	64	96	1	1,219	3	30	43	-	3	4
Ky.	1	-	-	-	-	6	16	-	212	-	1	5	-	2	4
Tenn.	1	-	-	-	-	56	38	-	950	1	9	16	-	1	-
Ala.	4	-	3	-	-	1	34	1	57	2	15	22	-	-	-
Miss.	5	-	2	-	-	2	8	N	N	-	5	-	-	-	-
W.S. CENTRAL	38	2	405	-	4	624	141	4	714	20	148	185	1	11	55
Ark.	1	-	-	-	-	283	17	-	278	-	9	11	-	2	-
La.	-	-	-	-	-	4	13	2	209	1	30	11	-	-	-
Okla.	4	-	2	-	1	39	17	N	N	25	109	89	-	5	-
Tex.	31	2	403	-	3	298	94	2	227	-	-	54	1	4	55
MOUNTAIN	24	-	462	-	19	320	71	-	195	2	124	189	-	24	21
Mont.	-	-	127	-	1	8	3	-	4	-	6	10	-	8	2
Idaho	2	-	-	-	-	1	5	-	4	2	37	33	-	1	-
Wyo.	1	-	-	-	2	-	-	-	-	-	5	1	-	1	-
Colo.	7	-	5	-	4	7	20	-	28	-	43	52	-	-	1
N. Mex.	1	-	298	-	9	37	7	N	N	-	8	17	-	-	-
Ariz.	10	-	30	-	1	258	23	-	138	-	23	46	-	4	2
Utah	1	-	-	-	1	8	9	-	8	-	2	27	-	10	13
Nev.	2	-	2	-	1	1	4	-	3	-	-	3	-	-	3
PACIFIC	243	-	740	-	101	566	583	9	312	32	415	290	-	178	210
Wash.	17	-	34	-	7	155	70	-	44	1	64	62	-	1	14
Oreg.	5	-	2	-	73	9	26	N	N	2	55	10	-	2	1
Calif.	217	-	704	-	17	380	474	9	247	15	150	190	-	112	191
Alaska	3	-	-	-	-	-	4	-	7	-	10	2	-	2	-
Hawaii	1	-	-	-	4	22	9	-	14	14	136	6	-	61	4
Guam	-	-	2	-	-	5	4	-	5	-	-	-	-	1	3
P.R.	1	4	724	-	-	33	5	-	8	-	15	13	-	2	60
V.I.	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-
Pac. Trust Terr.	-	-	1	-	-	-	1	-	5	-	1	-	-	1	2
Amer. Samoa	-	-	-	-	-	2	-	-	3	-	-	-	-	-	1

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending August 29, 1987 and August 23, 1986 (34th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1987
UNITED STATES	22,540	16,859	19	13,565	14,060	131	199	453	3,134
NEW ENGLAND	393	306	-	422	453	1	21	7	6
Maine	1	15	-	18	32	-	1	-	2
N.H.	3	10	-	12	20	-	-	-	-
Vt.	2	7	-	9	13	-	1	-	-
Mass.	186	165	-	238	228	1	11	4	-
R.I.	8	16	-	35	35	-	3	-	1
Conn.	191	93	-	110	125	-	5	3	3
MID. ATLANTIC	4,296	2,424	2	2,339	2,884	-	21	11	264
Upstate N.Y.	141	118	2	340	416	-	8	7	41
N.Y. City	3,119	1,383	-	1,109	1,498	-	1	-	-
N.J.	453	434	-	442	496	-	12	1	13
Pa.	583	489	-	448	454	-	-	3	210
E.N. CENTRAL	895	660	-	1,579	1,640	3	24	44	117
Ohio	77	85	-	296	298	1	6	32	10
Ind.	42	78	-	144	178	-	4	-	13
Ill.	316	351	-	679	728	-	8	5	35
Mich.	110	117	-	398	367	-	3	5	20
Wis.	50	29	-	70	79	2	3	2	39
W.N. CENTRAL	113	150	2	407	409	44	9	45	894
Minn.	13	27	1	95	101	-	4	-	171
Iowa	19	6	1	29	32	3	2	1	195
Mo.	62	80	-	222	208	29	3	16	41
N. Dak.	-	5	-	5	5	1	-	-	98
S. Dak.	8	3	-	21	16	7	-	1	151
Nebr.	7	12	-	16	7	2	-	1	16
Kans.	4	17	-	29	40	3	-	26	34
S. ATLANTIC	7,572	5,118	-	2,883	2,896	4	19	185	848
Del.	51	35	-	31	30	1	-	2	-
Md.	400	291	-	264	209	-	3	36	273
D.C.	233	204	-	99	87	-	-	-	34
Va.	196	250	-	297	223	2	3	14	260
W. Va.	6	18	-	72	78	-	1	5	41
N.C.	432	336	-	315	356	1	2	55	14
S.C.	503	447	-	303	357	-	-	32	39
Ga.	1,073	985	-	455	408	-	-	20	132
Fla.	4,678	2,552	-	1,047	950	-	10	1	55
E.S. CENTRAL	1,268	1,151	1	1,096	1,208	5	2	86	224
Ky.	13	53	-	275	286	1	1	7	111
Tenn.	516	402	-	254	355	1	1	44	57
Ala.	323	366	1	353	380	-	-	12	56
Miss.	416	330	-	214	187	3	-	3	-
W.S. CENTRAL	2,714	3,423	2	1,819	1,820	49	11	101	438
Ark.	176	166	-	182	243	22	1	10	88
La.	493	567	-	188	315	3	-	-	11
Okla.	97	87	1	158	166	21	2	79	26
Tex.	1,948	2,603	1	1,081	1,096	3	8	12	313
MOUNTAIN	470	388	1	319	339	14	12	12	256
Mont.	8	6	-	9	17	2	-	10	117
Idaho	5	9	1	17	14	1	-	-	5
Wyo.	1	1	-	-	-	-	-	1	58
Colo.	78	98	-	40	37	4	-	-	6
N. Mex.	40	46	-	61	67	1	9	-	2
Ariz.	227	158	-	156	169	3	3	-	56
Utah	19	11	-	16	28	1	-	1	5
Nev.	92	60	-	20	17	2	-	-	9
PACIFIC	5,119	3,239	11	2,901	2,629	11	80	2	287
Wash.	79	106	-	173	123	4	6	-	-
Oreg.	193	75	-	76	92	4	1	-	-
Calif.	4,835	3,033	11	2,490	2,250	2	69	2	284
Alaska	3	-	-	34	37	1	-	-	3
Hawaii	9	25	-	128	127	-	4	-	-
Guam	2	1	-	25	34	-	-	-	-
P.R.	621	576	-	195	210	-	-	-	48
V.I.	4	-	-	2	1	-	-	-	-
Pac. Trust Terr.	126	170	-	122	44	-	16	-	-
Amer. Samoa	2	-	-	-	4	-	1	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending August 29, 1987 (34th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	620	432	122	38	14	13	40
Boston, Mass.	155	93	38	12	5	7	16
Bridgeport, Conn.	28	18	7	2	1	-	2
Cambridge, Mass.	29	24	4	-	1	-	3
Fall River, Mass.	20	17	3	-	-	-	1
Hartford, Conn.	61	39	12	5	1	3	1
Lowell, Mass.	32	26	6	-	-	-	1
Lynn, Mass.	14	11	2	1	-	-	-
New Bedford, Mass.	35	30	2	2	-	1	-
New Haven, Conn.§	57	42	10	4	1	-	1
Providence, R.I.	50	33	13	2	1	1	2
Somerville, Mass.	4	1	1	1	1	-	-
Springfield, Mass.	49	31	11	6	-	1	4
Waterbury, Conn.	29	23	5	1	-	-	4
Worcester, Mass.	57	44	8	2	3	-	5
MID. ATLANTIC	2,489	1,633	484	249	67	56	131
Albany, N.Y.	55	35	14	6	-	-	-
Allentown, Pa.	15	12	3	-	-	-	2
Buffalo, N.Y.	99	68	20	7	3	1	10
Camden, N.J.	35	26	4	5	-	-	-
Elizabeth, N.J.	21	13	4	2	1	1	-
Erie, Pa.†	34	26	4	1	2	1	4
Jersey City, N.J.	54	37	5	7	1	4	-
N.Y. City, N.Y.	1,394	894	272	154	40	34	64
Newark, N.J.	65	28	15	19	1	2	4
Paterson, N.J.	32	20	3	6	2	1	2
Philadelphia, Pa.	300	194	71	20	8	7	18
Pittsburgh, Pa.†	55	37	12	5	-	1	3
Reading, Pa.	25	21	3	1	-	-	1
Rochester, N.Y.	94	70	12	9	2	1	8
Schenectady, N.Y.	24	19	4	-	1	-	1
Scranton, Pa.†	19	17	-	1	-	1	1
Syracuse, N.Y.	90	59	22	2	6	1	6
Trenton, N.J.	29	22	4	2	-	1	2
Utica, N.Y.	23	14	8	1	-	-	5
Yonkers, N.Y.	26	21	4	1	-	-	-
E.N. CENTRAL	2,249	1,470	463	170	64	82	81
Akron, Ohio	66	47	14	3	2	-	-
Canton, Ohio	27	16	5	3	1	2	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	154	101	38	10	3	2	17
Cleveland, Ohio	150	93	34	12	5	6	1
Columbus, Ohio	131	76	34	9	4	8	2
Dayton, Ohio	108	73	21	9	4	1	6
Detroit, Mich.	238	129	55	33	10	11	2
Evansville, Ind.	49	38	4	2	3	2	2
Fort Wayne, Ind.	45	31	9	1	3	1	-
Gary, Ind.	11	7	4	-	-	-	-
Grand Rapids, Mich.	79	60	11	2	1	5	8
Indianapolis, Ind.	154	102	31	9	4	8	-
Madison, Wis.	43	31	7	3	2	-	2
Milwaukee, Wis.	123	80	20	8	4	2	6
Peoria, Ill.	42	20	13	3	1	5	3
Rockford, Ill.	48	34	4	3	3	4	2
South Bend, Ind.	50	36	7	5	1	1	3
Toledo, Ohio	98	73	15	7	2	1	9
Youngstown, Ohio	69	52	12	3	1	1	-
W.N. CENTRAL	863	586	165	55	31	26	44
Des Moines, Iowa	67	46	12	4	1	4	5
Duluth, Minn.	25	17	4	-	3	1	1
Kansas City, Kans.	34	25	6	3	-	-	-
Kansas City, Mo.	126	88	25	5	3	5	6
Lincoln, Nebr.	45	31	8	3	2	1	6
Minneapolis, Minn.	202	144	33	13	6	6	13
Omaha, Nebr.	78	49	20	3	3	3	1
St. Louis, Mo.	143	85	33	14	8	3	3
St. Paul, Minn.	68	53	5	7	2	1	-
Wichita, Kans.	75	48	19	3	3	2	9
S. ATLANTIC	1,237	734	261	139	48	52	37
Atlanta, Ga.§	131	81	28	16	4	2	1
Baltimore, Md.	193	125	35	21	6	6	6
Charlotte, N.C.	78	48	19	8	1	2	2
Jacksonville, Fla.	107	70	21	9	3	4	-
Miami, Fla.	120	70	24	16	5	5	-
Norfolk, Va.	63	23	15	13	7	5	3
Richmond, Va.	97	57	25	5	6	4	6
Savannah, Ga.	57	32	13	4	3	5	3
St. Petersburg, Fla.	78	62	10	2	-	4	5
Tampa, Fla.	69	46	10	6	2	4	6
Washington, D.C.	226	109	60	38	6	11	3
Wilmington, Del.	18	11	1	1	5	-	-
E.S. CENTRAL	708	443	152	54	28	31	30
Birmingham, Ala.	134	82	29	12	3	8	2
Chattanooga, Tenn.	63	43	16	3	1	-	1
Knoxville, Tenn.	65	44	12	3	1	5	5
Louisville, Ky.	105	71	23	8	3	-	2
Memphis, Tenn.	133	77	32	8	5	11	13
Mobile, Ala.	23	17	5	-	1	-	3
Montgomery, Ala.	46	32	6	3	3	2	2
Nashville, Tenn.	139	77	29	17	11	5	2
W.S. CENTRAL	1,301	792	282	123	58	46	46
Austin, Tex.	68	45	6	8	6	3	2
Baton Rouge, La.	45	30	7	5	1	2	1
Corpus Christi, Tex.	45	29	11	4	1	-	1
Dallas, Tex.	169	88	39	21	10	11	2
El Paso, Tex.	50	31	11	4	1	3	3
Fort Worth, Tex	94	68	15	1	9	1	4
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	82	53	12	11	3	3	7
New Orleans, La.	117	73	22	14	6	2	-
San Antonio, Tex.	183	106	50	16	6	5	10
Shreveport, La.	43	28	10	1	-	4	4
Tulsa, Okla.	97	65	25	4	2	1	5
MOUNTAIN	721	425	154	74	47	20	33
Albuquerque, N. Mex.	86	48	15	10	11	2	6
Colo. Springs, Colo.	63	42	11	6	3	1	11
Denver, Colo.	106	66	18	13	8	1	2
Las Vegas, Nev.	134	74	34	16	6	3	6
Ogden, Utah	27	16	7	1	2	1	2
Phoenix, Ariz.	129	68	33	10	9	9	2
Pueblo, Colo.	25	20	5	-	-	-	1
Salt Lake City, Utah	44	24	10	6	3	1	-
Tucson, Ariz.	107	67	21	12	5	2	3
PACIFIC	1,865	1,194	370	185	75	35	76
Berkeley, Calif.	12	11	1	-	-	-	-
Fresno, Calif.	97	67	9	9	9	3	7
Glendale, Calif.	24	19	2	1	2	-	1
Honolulu, Hawaii	72	50	13	4	2	3	7
Long Beach, Calif.	62	32	17	8	3	2	5
Los Angeles Calif.	582	352	115	62	23	6	8
Oakland, Calif.	59	34	17	5	3	-	4
Pasadena, Calif.§	30	23	5	1	1	-	1
Portland, Oreg.	116	76	17	12	4	7	4
Sacramento, Calif.	131	78	29	10	10	4	12
San Diego, Calif.	154	102	33	12	3	2	3
San Francisco, Calif.	161	96	33	28	2	2	1
San Jose, Calif.	157	112	32	8	4	1	10
Seattle, Wash.	125	68	34	12	7	4	1
Spokane, Wash.	66	50	7	6	2	1	9
Tacoma, Wash.	37	24	6	7	-	-	3
TOTAL	12,053††	7,709	2,453	1,087	432	361	518

*Mortality data in this table are voluntarily reported from 121 cities in the United states, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past 4 weeks.

Enterovirus — Continued

coxsackieviruses B4 and A9 (five each), and coxsackievirus B3 and echoviruses 9 and 14 (three each). In 1986, the six most common NPEV isolates were echovirus 11 (184 of the 1,192 isolates), echovirus 4 (162), echovirus 7 (155), echovirus 18 (98), coxsackieviruses B4 and B5 (92 each). These six NPEV types represented 66% of the total enterovirus isolates reported for 1986.

Reported by: State Virology Laboratory Directors. Respiratory and Enterovirus Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: A retrospective study of CDC's NPEV surveillance data shows that isolates from March through May predict the types likely to be isolated from July through December, which includes the peak enterovirus season (*1*). In the past, the six most common isolates from March through May have accounted for an average of 59% of the isolates from July through December. In 1986, they accounted for 52% of the isolates from July through December. The reports of early 1987 isolates suggest that echoviruses 6, 9, 11, and 14 and coxsackieviruses A9, B3, and B4 are likely to be common NPEV isolates this year. Six of the top seven isolates reported from March through May this year and all of the top six isolates reported in 1986 were among the top 15 most frequently isolated NPEVs for the period 1970-1983 (*1*).

Reference

1. Strikas RA, Anderson LJ, Parker RA. Temporal and geographic patterns of isolates of nonpolio enterovirus in the United States, 1970-1983. J Infect Dis 1986;153:346-51.

Perspectives in Disease Prevention and Health Promotion

Community Oral Health Surveillance — Columbus, Ohio

During 1986, the Columbus Health Department in Columbus, Ohio, conducted a survey to collect data on the oral health status of local schoolchildren. Their purpose was to gather information for program planning. The survey was designed using the World Health Organization's Pathfinder methodology (*1*). A sample of students from two cohorts (grades one and two and grades six and seven) were given oral examinations. Examination sites were randomly selected from among public schools, which were stratified according to the percentage of children eligible for free and reduced cost meals. Each student's dental status was assessed using the Decayed, Missing, and Filled Surface Index for permanent teeth (*2,3*) and the decayed and filled surface index for primary teeth (*3,4*). Portable dental chairs and lights were used in the examinations, and the findings were entered directly into a data management system.

Data from the survey were tabulated according to the percentage of children with dental caries experience and untreated caries, the various degrees of urgency of need for dental treatment, and the presence of pit and fissure sealants. Caries experience in the permanent dentition was classified according to the types of teeth and tooth surfaces affected.

Sixty percent of the 640 children examined had either decayed, missing, or filled teeth (Table 1). Approximately 30% of the children examined had an obvious need for dental treatment, generally for untreated carious lesions. One-third of these had large lesions requiring early treatment, and 1% had pain or infection requiring immediate care. The remaining two-thirds of the children with obvious treatment needs had

Oral Health — Continued

small carious lesions or needed professional cleanings. Approximately 90% of the children with untreated caries had lesions in up to three teeth.

The caries experience in permanent teeth was evaluated to determine the appropriateness of a pit and fissure dental sealant program. Forty-four percent of the children examined had decayed, missing, or filled permanent teeth. Most caries experience in permanent teeth was on surfaces with pits and fissures rather than on smooth tooth surfaces. Eighty-seven percent of carious permanent tooth surfaces had pit or fissure lesions, while only 4% of children had preventive pit and fissure sealants on one or more teeth. First and second permanent molar teeth accounted for 94% of caries (Table 2). Furthermore, 91% of carious lesions on permanent molars were found on surfaces with pits and fissures (Table 3). Twenty-six percent of first and second graders had decayed, missing, or filled first permanent molar teeth, while 62% of sixth and seventh graders had similar experience.

Reported by: M Siegal, DDS, MPH, Columbus Health Dept, R Kuthy, DDS, MPH, Ohio State Univ College of Dentistry, B Martin, RDH, MS, Ohio Dept of Health. S Eklund, DDS, DrPH, Univ of Michigan School of Public Health. Dental Disease Prevention Activity, Office of the Director, Center for Prevention Svcs, CDC.

Editorial Note: Local oral health status data are important for the proper planning and evaluation of local dental programs. National oral health surveys (*5-7*) provide useful information on trends in the prevalence and distribution of oral diseases. Their sampling methodologies, however, do not permit extrapolation of their findings to specific communities. By thoughtfully selecting purposive samples, local dental programs can collect community-specific data in a timely fashion with limited resources. The cluster sampling technique used in the Columbus survey provided data that were sufficiently precise for planning purposes. Since school programs would be targeted by grade level, grade level rather than age was chosen as a basis for cohort selection.

TABLE 1. Oral health status of surveyed schoolchildren, by grade level — Columbus, Ohio, 1986

Oral Health Indicators	Grades 1 & 2 (n=339)	Grades 6 & 7 (n=301)	Grades 1,2,6,&7 (n=640)
Caries Experience			
None	46%	34%	40%
1-3 Teeth	29%	38%	34%
≥4 Teeth	25%	28%	26%
Untreated Caries			
None	69%	74%	71%
1-3 Teeth	26%	25%	26%
≥4 Teeth	5%	1%	3%
Need for Dental Care			
No Obvious Need	68%	72%	69%
Nonurgent	20%	19%	20%
Early	11%	8%	10%
Immediate	1%	1%	1%

Oral Health – Continued

The Columbus survey of schoolchildren demonstrated that dental caries in permanent teeth were concentrated on the molar tooth surfaces that have pits and fissures. It also revealed that few children were protected by sealants, which have been demonstrated to be an effective means of preventing such carious lesions (*8*). Columbus has had optimally fluoridated water since 1973. It is, therefore, not surprising that only a small percentage of carious lesions were found on smooth surfaces.

The data from the survey were reported to the local board of health and shared with the local dental society and the media. They were also incorporated into several grant proposals that resulted in the implementation of a school-based sealant program in the Columbus public schools. Some of the findings of the survey were used in planning the sealant program and were incorporated into the long-range plans of the city's dental program. The data will serve as a baseline for evaluation of the school-based sealant program and other efforts of the dental community to increase the use of pit and fissure sealants. Future oral health surveys are planned at 3- to 5-year intervals.

TABLE 2. Distribution of decayed or filled permanent teeth among surveyed schoolchildren, by type of tooth and grade level of student – Columbus, Ohio, 1986

Decayed or Filled Permanent Molar Teeth*	Grades		
	1 & 2 (n=339)	6 & 7 (n=301)	1,2,6,&7 (n=640)
Total Number	162	600	762
First Molars (%)	(98)	(77)	(82)
Second Molars (%)	(<1)	(15)	(12)
Bicuspids (%)	(<1)	(6)	(4)
Other Teeth (%)	(1)	(2)	(2)

*Missing teeth are not included. Of the 12 missing teeth found among sixth and seventh graders, seven were first molars, one was a bicuspid, and four were other teeth. No missing teeth were found among first and second grade students.

TABLE 3. Distribution of decayed and filled permanent molar tooth surfaces among surveyed schoolchildren, by tooth surface and grade level of student – Columbus, Ohio, 1986

Decayed or Filled Permanent Molar Tooth Surfaces*	Grades		
	1 & 2 (n=339)	6 & 7 (n=301)	1,2,6,&7 (n=640)
Total Number	232	891	1,123
Buccal of Mandibular (%)	(19)	(18)	(18)
Palatal of Maxillary (%)	(13)	(16)	(15)
Occlusal (%)	(58)	(57)	(58)
Smooth Surfaces (%)	(10)	(9)	(9)

*Missing teeth are not included. Seven of the 12 missing permanent teeth found among sixth and seventh graders were first molars. No permanent molars were found missing among first and second grade students.

Oral Health — Continued

References

1. World Health Organization. Oral health surveys: basic methods. 2nd ed. Geneva: World Health Organization, 1977.
2. Klein HP, Palmer CE, Knutson JW. Studies on dental caries: I. dental status and dental needs of school children. Pub Health Rep 1938;53:751-65.
3. National Institute of Dental Research. DMF and df index: discussion of diagnostic criteria presented at examiner training session by Dr. Swango. In: calibration manual for the national caries prevalence survey 1979. Bethesda, Maryland: National Institute of Dental Research, 1979:V-1 - V-9.
4. Gruebbel AO. A measurement of dental caries prevalence and treatment service for deciduous teeth. J Dent Res 1944;23:163-8.
5. National Institute of Dental Research. Prevalence of dental caries in United States children, 1979-80: national dental caries prevalence survey. Bethesda, Maryland: National Institute of Dental Research, 1981; NIH publication no. 82-2245.
6. National Center for Health Statistics. Decayed, missing, and filled teeth among children, United States. Rockville, Maryland: National Center for Health Statistics, 1971; DHEW publication no. (HSM)72-1003. (Vital and health statistics; series 11; No. 106).
7. National Center for Health Statistics. Basic data on dental examination findings of persons 1-74 years, United States, 1971-74. Hyattsville, Maryland: National Center for Health Statistics, 1979; DHEW publication no. (PHS)79-1662. (Vital and health statistics; series 11; no. 214).
8. National Institutes of Health. Consensus development conference statement: dental sealants in the prevention of tooth decay. J Am Dent Assoc 1984;108(2):233-6.

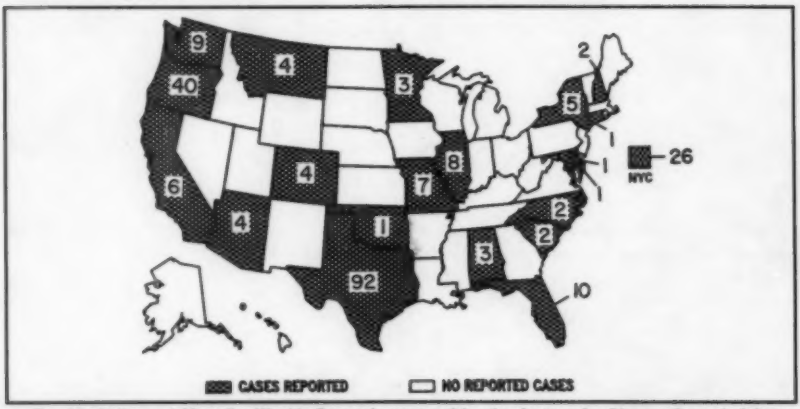
Errata: Vol. 36, Nos. 29 and 33

p. 489 The second sentence in the first paragraph on page 489 should have read, "Three of them were female."

p. 552 In the figure accompanying the article entitled "Imported and Indigenous Dengue Fever — United States, 1986", Zone 1 of the breeding season for the mosquito *Aedes Aegypti* was misrepresented. The figure should have appeared as follows:

FIGURE 1. Number of confirmed cases of dengue, by state, and distribution of *Aedes aegypti* and *Aedes albopictus* — United States, 1986

FIGURE I. Reported measles cases — United States, weeks 30-33



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